

REMARKS/ARGUMENTS

The official action mailed on May 31, 2006 has been carefully considered, along with cited reference, applicable sections of the Patent Act, Patent Rules, the Manual of Patent Examining Procedure and relevant decisional law. The disclosure is objected to because of several informalities. In response, the disclosure has been amended according to examiner's suggestions.

The following statement is to compare the major difference between application design and prior patented design.

(A) USPN 1,552,713

In cited art structure design:

1. The bumper of rubber (54) connects between a plate of sheet metal (43) and finger pierce (61). The rubber structure (54) with stick-out shape did not cover the internal case (43) all the way down. The uncover bottom case will scratch the surface of blackboards. The distance between bumper of rubber (54) and longitudinal strips (30) is too high (Fig. 14).
2. The major design problem is that the fix type longitudinal strips (30) cannot be rotated while erasing. As a result, the eraser cannot be used continuously and require to be cleaned the chalk powder from eraser cloth occasionally. It is not convenience to the user.

In application structure design:

1. In USPN 1,552,713, there is no basic structure of brush, rollers, bracket and eraser cloth as the application design that can rotate eraser cloths and wipe off chalk power quickly by the brush.
2. One of application advance design is a soft pad ring (70) in U shape is mounted on the eraser case to keep about 3mm distance from blackboards while erasing (Fig. 5). The major function of pad ring is to keep the eraser case from the blackboard and no reduction vacuum force due to longer distance.

3. The USPN 1,552,713 design and functionality is totally different with application design.

(B) USPN 1,801,620

In cited art structure design:

1. The drum (25) rotates 4 piece eraser clothes to contact with blackboard. Because the erasing contact area is a straight line and the erase area is small, it requires erasing several times for a completely erase.
2. Two small rollers (27) only can move to one direction from left to right not from up to down. The major problem is, the two rollers (27) contact with chalk powder and leave roller mark on the blackboards during erasing (Fig. 2).

In application structure design:

1. The eraser cloth (30) is a big fully contact area with blackboard and erases chalk quickly and completely. The eraser can move in any direction from left, right, up or down without leaving any roller mark and this is a totally different design with USPN 1,801,620.

(C) USPN 4,941,225

In cited art structure design:

1. The roller is directly mounted to two shaft holes (11A,11B) on a body portion (10) and not way to connect with vacuum device (Fig 2).
2. The size of scraper (35) with two rows brush is too small to wipe off chalk powder completely.
3. The rubbing cloth (36) is mounted to the two uneven shape ratchet wheels (321) of two rollers (32). The uneven shape ratchet wheels (321) design could leave the erasing mark on the blackboard and have assembly difficulties too.
4. The spring (351) is mounted to the ratchet wheels (321) at the end of two rollers and it causes the high friction (Fig. 2). Since the chalk powder is very light substance, it generates

dust cloud of chalk powder as soon as the brush wipes off the chalk from the rubbing cloth (36). In addition, this eraser has no connection to the vacuum device and the dust cloud of chalk powder is harmful to the body.

In application structure design:

1. The eraser case (10) has oblong shaft holes (12) to insert roller shaft (50) and then connect spring to the spring holder (13). The eraser case can connect to the vacuum device (Fig 3 & Fig. 9).
2. The brush (20) is a one big area piece and can wipe off chalk powder from eraser fabric (30) quickly (Fig. 1)
3. Two rollers (40) are line up and are inserted with roller shaft (50) under the bracket. This design makes the erase area in a flat surface (Fig.1).
4. The spring (51) is externally mounted between roller shaft and spring holder (13) (Fig. 3).

The application design is completely different with USPN 4,941,225. Overall, the application design is simple and can connect to the vacuum device (Fig.4 & Fig. 9) for the dust cloud of chalk powder problem.

(D) & (E) USPN 5,537,711 and US 2003/000,042

In those cited art structure design:

1. The structure of cleaning pad (7)(34) is fix type and cannot continually be used after attaching too much chalk powder. Occasionally, the user needs to replace eraser cloth or clean up the eraser in order to erase chalk completely.
2. The major problem is the eraser case hard material will scratch the blackboards if the eraser holds in slop angle.

In application structure design:

1. The eraser cloth (30) is a circle type and combines with a bracket (60) in the eraser case (10). Two rollers (40) inside the bracket (60) can rotate eraser fabric (30) and allow to be used continuously (Fig. 2). Move the eraser up and down and the brush (20) will wipe off the chalk powder attaching on the eraser cloth (Fig. 5). No need to clean up or replace eraser cloth while erasing.
2. To avoid scratching the blackboard, a soft pad (70) is design for blackboard protection (Fig. 3 & Fig 5). This is a totally different design with US 2003/000042 and USPN 5,537,711.

Conclusion

In view of the foregoing amendment and remarks, applicant respectfully submits that the present invention is patentably distinguishable over the cited arts and that the application is now in condition for allowance, and such action is earnestly solicited.

Courtesy and cooperation of examiner Guidotti are appreciated.

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